

**ABSTRACT**

The present invention is to formulate a production plan 5 by means of an event-based simulator 4 simulating movement 5 of products within a factory through use of a production process model 2 and a production rule 3. There are provided a time-interval-based simulator 6 for computing the statuses of production processes at given time intervals, and a rule generator 7 for automatically deriving the production rule 3 10 through use of the time-interval-based simulator 6. As a result of a production plan being repeatedly formulated at high speed through use of the time-interval-based simulator 6, the rule generator 7 can automatically, efficiently formulate the production rule 3 by application of machine learning based on 15 a consecutive optimization method. An event-based simulator 4 devises a high-quality production plan 5 using the generated production rule 3.